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ÉCONOMIE DU DÉVELOPPEMENT DURABLE ET DE L'ÉNERGIE

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Millennium goals and Climate-Change negotiations: for a climate and development convergence mechanism

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Abstract

In 2015 two major international events will coincide: the United Nations Climate Change Conference in Paris and negotiations on a new set of Millennium Development Goals for 2030, including measures to combat poverty. Until now these two dossiers have mainly been treated separately, but the stakes for development and the measures required to avoid unbridled climate change are inextricably linked, particularly in developing countries. In the build-up to the 2015 Paris Climate Conference, this article presents a proposal which seeks to reconcile development strategies with policies on climate change and adaptation, by promoting various forms of synergy between these two fields, in such a way as to make satisfying basic needs an absolute priority and to clear up the dispute between industrialized and developing countries regarding the latter's commitment to combating climate change. Our Climate and Development Convergence Mechanism advocates an approach based on voluntary, sector-based, flexible participation enabled by output-based aid and indicators of the satisfaction of basic needs.

POLICY RELEVANCE

The Climate and Development Convergence Mechanism could, in a single move, overcome several stumbling blocks within ongoing climate negotiations on climate change between developed and developing countries. First it could respond to the concerns of developing countries which do not accept constraints on their development on the grounds of combating climate change. On the contrary the mechanism represents a form of incentive to achieve convergence between development priorities, particularly poverty alleviation and satisfaction of several basic needs and the equally necessary efforts to cut greenhouse gas emissions, while developing in climate-change resilient ways. Second, if developing countries accepted the mechanism, industrialized countries could no longer maintain their current stance, demanding a formal commitment on emissions reduction. The potential of the mechanism relies on the credibility of financial support and technology-transfer mechanisms.

Keywords

International climate negotiations, Millennium Development Goals, basic needs, bottom-up approach, climate and development convergence, output-based aid

Introduction

Two key debates are set to occupy the international agenda in 2015: on the one hand the United Nations Climate Change Conference in Paris; on the other countries are due to set a new set of Millennium Development Goals for 2030, including combating poverty. So far these two processes have remained largely separate. However the stakes for development and the responses required to limit climate change are inextricably linked, particularly in developing countries.

It is extremely likely that the impacts of climate change due to an average temperature increase exceeding 2°C would decisively compromise economic development and efforts to effectively reduce poverty in developing countries. However, according to estimates published by the International Panel on Climate Change, without further commitments on emissions abatement, the planet could see temperatures rise by between 3.7°C and 4.8°C (and these are only global averages). The IPCC is also afraid that warming on this scale will exacerbate the plight of already vulnerable populations, such as slum dwellers, victims of malnutrition and those who lack access to improved sanitation facilities. Regions and whole countries, struggling to cope with rising population density or degraded ecosystems, could be destabilized.

However, since the Rio Earth Summit in 1992 and at subsequent annual international climate conferences, many developing countries have repeatedly set climate-change mitigation in opposition to development goals. They maintain that cutting greenhouse gas (GHG) emissions would place a further brake on growth. On these grounds they have, in particular, refused any commitment on emissions abatement, giving absolute priority to economic growth, industrial diversification and higher income in order to reduce poverty.

The scenarios in the latest IPCC report tell us that carbon neutrality must be achieved during the second half of the century in order to preserve the global emissions trajectories leading to the 2°C target; this requires cooperation by all parties.

It has to be admitted that another form of 'realpolitik' has prevailed. The industrialized nations are demanding a significant commitment on the part of developing and, particularly, emerging countries, which the latter have rejected on the grounds of development and the principle of common but differentiated responsibility, according to which it is up to industrialized nations to decarbonize their economies first. For a long time these positions have held back international negotiations on the climate.

In the build-up to the 2015 Climate Change Conference, this article presents a proposal designed to reconcile development strategies and climate policy, by targeting and supporting the deployment of effective synergies between these two concerns. In so doing it seeks to clear up the dispute between industrialized and developing countries.

In the first part we shall return to the contextual factors which have discouraged commitment by developing countries. In the second part we present the Climate and Development Convergence Mechanism (CDCM) for targeting low-carbon and climate-change resilient development goals. The final part shows how this proposal could overcome some of the obstacles holding up negotiations.

I. Context

1. Ending the monolithic view of developing countries

The principle of common but differentiated responsibility has, in the past, left a deep mark on international negotiations on climate change. It was first framed in Principle 7 of the Rio Declaration, as part of establishing 'a new and equitable global partnership'. It responded to the demands and views of developing countries which did not want to see environmental protection become an additional constraint on their development. This principle was operationalized in the Rio Convention and the Kyoto Protocol, through the distinction made between Annex I parties to the Convention, comprising industrialized countries, and non-Annex I parties, comprising developing countries. The Protocol (Article 3) only allocated binding targets for cutting GHG emissions to the first group. Furthermore, Annex II parties (a sub-group of Annex I), were required to provide financial support to non-Annex I parties to adapt to climate-change impacts and transfer technology (Article 11).

Until the 1990s this clear-cut distinction was justified by the substantial differences between developing and industrialized countries, in particular in terms of per capita income, historical responsibility for climate change, and per capita GHG emissions. But in the past 20 years this global setup has profoundly changed, leading to much more uneven conditions among non-Annex I parties, whereas for some characteristics the same conditions have prevailed in both developing and industrialized countries.

Firstly, the gap in terms of average per capita income between the least developed countries and emerging countries has widened (Table 1). The latter group has enjoyed powerful growth, closing the gap for GDP per capita based on purchasing power parity between China and the United States, for example, from 29 to 6.2. For India the gain was only from 25.5 to 13.3; for Brazil and South Africa it was largely steady; but for the least developed countries it deteriorated.

Table 1: Variation in per capita income between 1990 and 2010 in several developing countries based on purchasing power parity and in relation to US per capita income.

	GDP per capita, PPP \$ (thousands)		GDP per capita/US	
	1990	2010	1990	2010
United States	23.0	46.6	-	-
European Union	14.5	31.6	1.6	1.5
India	0.9	3.5	25.5	13.3
China	0.8	7.6	29.0	6.2
South Africa	5.8	10.5	4.0	4.4
Brazil	5.2	11.2	4.4	4.2
Senegal	1.1	1.9	21.6	24.2
Benin	0.8	1.6	27.7	29.6
Burundi	0.5	0.6	46.3	80.4
Cameroon	1.5	2.3	15.3	20.6

Source: Enerdata

Matching economic growth the balance of GHG emissions is also contrasting for all the non-Annex I parties. In 2010 China, India and Brazil ranked first, third and fifth, respectively, among the planet's largest sources of CO₂ emissions. But these figures are national aggregates and require closer analysis (Table 2). The per capita emissions in India and Brazil are much lower than in China or South Africa, where the figures are comparable to some Annex I parties. Over and above the specific energy mixes of each country, these figures reflect the different levels of development reached by these countries.

Table 2: CO₂ emissions, in absolute value and per capita, for various developing countries, including several emerging countries, and for the US and France

	Emissions (MtCO ₂)		Per capita emissions (tCO ₂)		US per capita emissions in relation to country	
	1990	2010	1990	2010	1990	2010
United States	4804	5432	19.2	17.6		
European Union	4028	3620	8.4	7.1	2.3	2.5
India	547	1696	0.6	1.4	29.7	12.3
China	2331	7134	2.1	5.3	9.4	3.3
South Africa	246	367	7.0	7.4	2.8	2.4
Brazil	186	375	1.2	1.9	15.5	9.1
Benin	0.2	4.4	0.1	0.5	370.1	35.1
Burundi	0.2	0.2	0.04	0.03	481.1	702.3
Cameroon	2.6	5.0	0.2	0.3	89.9	69.4

Source: Enerdata

The economic advances underpinning this trend over the past 20 years also raise the question of how much financial and technological support should be afforded to non-Annex I parties. The trend can no longer be treated as a single, uniform process. In just a few years China has become the world leader for wind turbines, with four Chinese manufacturers in the global top 10. China also manufactures almost half the world's solar panels. Obviously there is no question of adopting an exaggeratedly 'Sinocentric' outlook. Glachant et al. (2013) show that to analyse technology transfer to the South and the framing of suitable policies we need to distinguish three groups of developing countries:

- China, Mexico and South Africa, and to a lesser extent Brazil, already appear to be well integrated in global trade in technology;

- India is some way behind, accounting for 4.9% of global GDP, whereas incoming technology transfer amounts to 1.5%;
- There is little technology-transfer to the least developed countries.

These observations cast doubt on the relevance of maintaining a strict distinction between Annex I and non-Annex I parties. At the very least they suggest the need for more flexible ways of applying the distinction, making allowance for the particularities of each country in the framing of a climate agreement.

The present 'firewall' between Annex I and non-Annex I parties fuels keen tension between states during international climate-change negotiations. In recent years two groups of negotiations between developing countries have been launched: the BASIC group comprising major emerging nations (Brazil, South Africa, India and China), which, it should be noted, played a very important part in the build-up to and during the Copenhagen Conference itself; and the group of Like-Minded Developing Countries (LMDC), a disparate assembly, given that India, China, Thailand and even Mali are among its members alongside several oil-exporting countries (such as Venezuela and Saudi Arabia). Due to the presence of countries which play a key role in both diplomacy and climate change (their action being required to keep global warming below 2°C), these groups exert real influence, which they use to advocate a series of demands specific to developing countries. However, even among developing countries there is disagreement on whether or not to maintain the distinction between Annex I and non-Annex I parties. Several of them are asking whether major emerging countries may legitimately remaining in the same category: the current classification exonerates non-Annex I parties from any quantified commitment to reduce emissions; furthermore, much as the least developed countries, it affords them the benefit of financial and technological support.

As we write a significant rift is opening up between the most fervent advocates of the 1992 status quo (the LMDC group) and Annex I parties (US, European Union, etc), the latter demanding that emerging countries commit themselves to reduce GHG emissions and campaigning for developing countries' entitlement to financial and technological support to be differentiated. For the least developed countries and the Alliance of Small Island States, the absolute priority is to reach an agreement which preserves a significant chance of keeping global warming below the 2°C ceiling, to ensure that their survival is not wholly compromised. They obviously realise that this goal will require leading emerging countries swiftly to adopt an emissions-reduction trajectory. They are also convinced that internal differentiation among non-Annex I parties could contribute to this process. The BASIC group have sometimes been accused of 'hiding behind the poor'¹ to get out of any commitments under an international agreement.

2. Limiting global warming to 2°C requires an end to opposition between climate and development

The indisputable economic growth registered by most developing countries over the past 20 years must not be allowed to conceal the glaring inequality within these countries, in particular the chronic failure to satisfy certain basic needs of their population. The international community knows this,

¹ This expression refers to a publication by Greenpeace India, Hiding Behind the Poor – A report by Greenpeace on Climate injustice in 2007 which prompted a controversy because it suggested that 'rich' Indians were hiding behind the hundreds of millions of poor to justify their refusal to make a commitment to climate policies.

witness its 2000 commitment on the millennium development goals². For example, the first of these goals is to halve, between 1990 and 2015, the proportion of people whose income is less than \$1.25 a day, and also to halve the proportion of people who suffer from hunger.

Table 3: Rate of satisfaction of certain basic needs in some developing countries

	Electrification rate (%)	Proportion of the population using sanitation facilities (%)	Population below \$1.25 (ppp) per day (%)	Exposure to PM10 (mg/m3)	Slum population as percentage of urban
China	99.8	65	2.8	82	31
India	75.3	36	7.5	100	32
Brazil	99.3	81	3.6	36	28
South Africa	84.7	74	2.3	40	29
Mali	72.9	22	16.4	55	66
Indonesia	80	59	2.7	47	23

*Urban-population weighted PM10 levels in residential areas of cities with more than 100.000 residents. The estimates represent the average annual exposure level of the average urban resident to outdoor particulate matter.

Source: <http://mdgs.un.org/unsd/mdg/Data.aspx>

No one can deny that overall poverty has been reduced since the 1990s, but in 2010 there were still 1.2 billion people living on less than \$1.25 a day³: 400 million in India, 400 million in sub-Saharan Africa and 230 million in China. Such poverty, which is more than just residual, goes hand-in-hand with large-scale failures to satisfy several basic needs: 840 million people in the world suffer from hunger; 2.5 billion lack access to improved sanitation facilities; 863 million urban residents live in slums. In sub-Saharan Africa, for example, only 34% of the population has access to electricity (58% in towns and only 8% in rural areas); in India the figure is 75%. To cope, people use hazardous, inefficient energy sources which are ultimately more costly. In Africa the poor spend \$17 billion a year on oil lamps. Worldwide, 2.5 billion people use biomass to cook their food, with devastating effects on their health (IEA, 2011). So it is hardly surprising that developing countries should make satisfying such needs a priority, ahead of combating climate change.

On the other hand, we now know that even with global warming limited to 2°C, the many impacts of climate change will further endanger the most vulnerable communities, undermining recent gains against poverty. The World Bank's Turn Down the Heat report paints a very gloomy picture of a world

² Eradicate extreme poverty and hunger; achieve universal primary education; promote gender equality and empower women; reduce child mortality; improve maternal health; combat HIV/Aids, malaria and other diseases; ensure environmental stability; global partnership for development.

³ Definition of extreme poverty according to the World Bank.

4°C hotter, on average, with extreme events and seriously disturbed climate causing far-reaching devastation and unbearable human suffering. These conclusions are endorsed by volume II of the latest IPCC assessment report and various national assessments.

To avoid this outcome, the IPCC explains, the world's population must become carbon neutral in the second half of the 21st century. The Deep Decarbonization Pathways Project⁴ also emphasizes the severity of the GHG pathways, within the same timeframe, to meet the 2°C target. If so, how can the solution to supplying electricity to 300 million Indians be to build new coal-fired power plants? Given the service life of infrastructure and facilities, with a very real risk of massive investment being made very misguidedly, it is surely essential that all the resources devoted to combating poverty should include a dual carbon and climate constraint.

In other words, just as the battle against climate change can only be stepped up if it makes allowance for the imperatives of development and combating poverty, so development strategies must integrate a decarbonized approach and adaptation to climate-change impacts. This opens the way for a positive agenda for achieving powerful synergies between international climate negotiations and new millennium development goals.

II. For convergence between poverty reduction, climate-change resilience and low-carbon development

It is consequently essential that the agreement reached at the Paris Climate Conference in 2015 should introduce a mechanism for directly targeting satisfaction of basic needs through decarbonized forms of development which are also climate-change resilient. The idea we shall develop below is based on a flexible architecture acting as an incentive for developing countries to contribute to combating climate change, backed by funding and technology transfer. In the following we shall refer to it as the Climate and Development Convergence Mechanism (CDCM).

The corner stone of this mechanism would be a reporting system comprising a series of indicators reflecting the degree of satisfaction of certain basic needs. For each of these basic needs, any country falling below a set threshold would *de facto* be entitled to financial and/or technological support, to increase fulfilment of the need. If reporting is inadequate, the country would lose its entitlement for funding or technology transfer for the relevant basic need. The Green Fund would be responsible for funding the CDCM.

1. Identifying areas of convergence

The CDCM aims to focus on possible forms of convergence between poverty reduction, through more widespread fulfilment of basic needs, and the future reduction of GHG emissions and/or greater resilience to climate-change impacts. This concerns several sectors (Table 4).

Table 4: Sector-based convergence between satisfying basic needs, combating climate change and enhancing climate-change resilience

⁴ <http://unsdsn.org/what-we-do/deep-decarbonization-pathways/>

	Example of action	Poverty-reduction goal	GHG mitigation goal	Adaptation goal
Housing	Promote bioclimatic building techniques	Reduce number of people living in slums	Limit GHG emissions from new housing	Reduce exposure to extreme events
Food	Improve agricultural efficiency from farm to fork	Reduce number of people suffering from malnutrition	Limit GHG emissions from agriculture	Reduce vulnerability of agriculture to climate change
Electricity	Develop decarbonized electricity generation and energy efficiency	Reduce number of people without electricity	Limit GHG emissions from electricity generation	Contribute to resilience of electricity sector
Waste	Waste-gas capture facilities	Reduce pollution. increase rate of waste processing	Limit GHG emissions from waste	Limit health impacts of badly managed waste in the context of climate change
Sanitation	Develop efficient or improved sewerage networks	Reduce number of people without sanitation	Limit GHG emissions from effluents	Limit exposure to flooding and/or epidemics (extreme events)
Transport	Public transport networks. soft mobility modes	Broaden access to mobility and improve public health in cities	Limit GHG emissions from vehicles	Contribute to resilience of transport infrastructures (extreme events)
Healthcare	Increase rate of healthcare coverage	Improve public health and broaden access to treatment	-	Limit exposure to epidemics and extreme events

In many sectors synergy exists between all three tasks. With regard to housing, building bioclimatic⁵ dwellings would reduce the number of people living under foul conditions, limit GHG emissions from these dwellings and enhance the resilience of their homes to extreme events. Similarly, improving the global efficiency of farming would reduce the number of under-nourished people, limit GHG emissions in this sector and improve its climate-change resilience.

In some sectors there is only synergy between two dimensions. Efforts to reduce poverty go hand-in-hand with greater resilience to the impacts of climate change, through enhanced healthcare. The

⁵ Bioclimatic can refer to traditional construction techniques.

development of health centres and access to treatment would reduce overall vulnerability to the public-health impacts of climate change, while satisfying an extremely basic need.

2. Choosing the criteria and thresholds for allocating aid

The choice of indicators must accurately reflect the degree to which needs in target sectors are fulfilled. Such indicators could be appraised either as a value relative to the population, or as an absolute value (for example the rate of electrification or the number of people without access to electricity⁶, or indeed the concentration of particles). Several criteria may also be needed to give a true picture of the situation. So, sticking to access to energy, a distinction may be drawn between physical access to electricity and financial access, which depends on the relation between the price of electricity and household purchasing power.

Choosing the right criteria for each type of basic need should of course be the subject of detailed talks between developed and developing countries. The criteria should form the basis for reporting by non-Annex I countries. The agreed thresholds for allocation of CDCM-specific aid should be consistent with the revised poverty-reduction targets enshrined in the sustainable development goals. So, remaining with the example of electricity, if the new Millennium Development Goals stipulate that all global citizens should have access to electricity by 2030, the CDCM should make formal provision for this goal.

3. Output-based aid

The CDCM is an output-based approach. Aid will be provided on an ex-post basis once the targets and projects have been validated. This type of aid has already been experimented, in particular by the World Bank (see box), but on a limited scale.

Within a strict project-oriented framework, an output-based aid (OBA) is defined as a performance-based subsidy, under which service delivery is contracted out to a third party, usually a private firm. Most of the subsidy⁷ is paid only after the services or outputs have been delivered and verified by an independent agent. This mechanism has proved particularly effective for achieving project targets (GPOBA, 2009). Project appraisal shows that 85% of them achieved or exceeded their goals, inside the budget initially allocated, compared to only 49% for conventional projects (Mumssen et al., 2010).

⁶ Defining thresholds as an absolute value or as a share relative to the population makes a difference. Despite having a 99.8% rate of electrification, 3 million Chinese lack physical access to electricity, which is more than other countries with a lower population and a much lower rate of electrification.

⁷ These subsidies may be one-off to subsidize investment, transitory or continuous to subsidize, use through a tariff suited to the poorest members of the community, for example.

Box 1: Experience of output-based approaches (GPOBA, 2009)

The World Bank launched its first output-based projects in 2002. At that point this type of aid concerned 32 projects worldwide, representing a total of \$1.5 billion in funding. This approach currently covers about 200 projects (131 backed by the World Bank and 66 others) benefiting about 60 million people.

The World Bank-sponsored projects represent a total subsidy of \$3.5 billion provided by the Bank (supplementing \$2.8 billion from other forms of public aid). These projects should, for example, afford access to electricity to nearly 9 million people (thanks to \$204 million in output-based aid) or indeed benefit 4 million people with regard to water and sanitation (\$166 million in output-based aid).

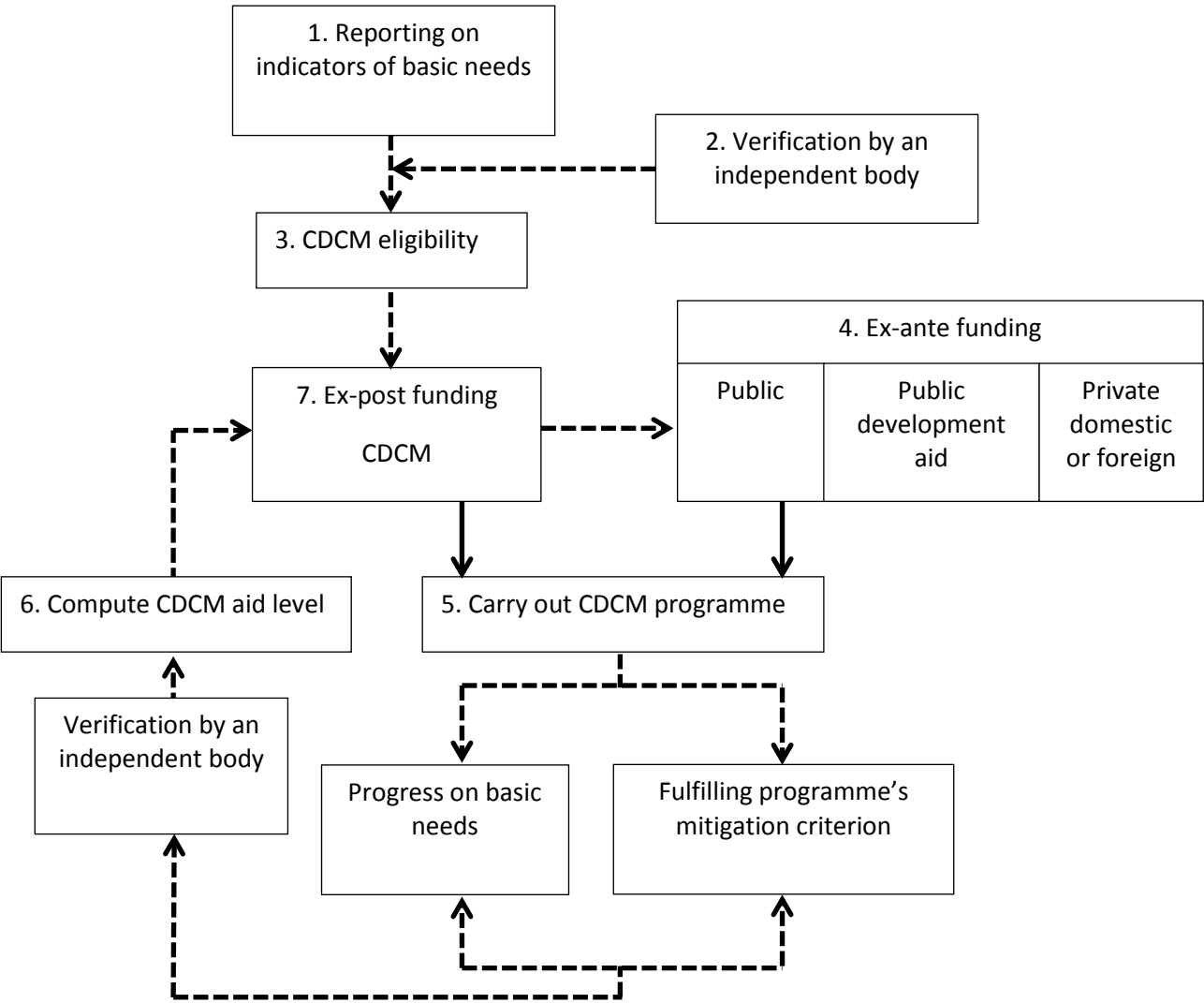
Of these projects, 52% concern South America and 33% Africa. Some 58% of the projects focus on transport, 6% on energy, 24% on healthcare, 5% on water and sanitation, 5% on education and 2% on telecommunications.

As part of the CDCM, output-based aid would be deployed on a ‘macro’ scale⁸ and the third party, in this case a developing country, would receive the subsidy once progress in the satisfaction of a basic need had been observed and measured. For example, a project in the electricity sector would receive aid in proportion to the number of additional beneficiaries gaining access to electricity generated using decarbonized resources, expressed as a net change for the country as a whole, to prevent a gain in one region being lost in another. The same principle could be applied to promote salubrious housing built to meet bioclimatic standards, or to improved sanitation networks. Lastly, an independent body would carry out appraisals at regular intervals, every two to five years, for example.

The particular strategy for deploying such projects in each country, and contributing to better living conditions there, would not be discussed as part of the CDCM process; that is a matter of national sovereignty. Only results would be observed. The mechanism could equally well apply to a subsidy for infrastructure investment, for the costs of usage (funding a tariff scheme for instance) or other forms of aid. In the same way countries are free to choose how projects should be funded: out of a country’s own funds, through private domestic or foreign investment, or development aid. The revenue contributed by the mechanism and covered by an ex post guarantee could be used to leverage project funding. The return-on-experience from output-based aid shows that a subsidy of \$1 leverages \$2 in private-sector funding (Hussain, 2011). Figure 1 details the workings of the climate and development convergence mechanism.

⁸ This approach is close to the one described by S. Hallegatte (2011) for funding adaptation.

Figure 1: Operating diagram for the climate and development convergence mechanism. Continuous lines indicate financial streams, dotted lines information streams



The level of aid provided by the CDCM will be decided sector by sector, for each type of basic need, in such a way as to establish an international benchmarking system. The first step is to determine the cost of satisfying basic needs in a specific sector: the per-capita cost of access to electricity, improved sanitation or waste disposal, among others. Return on experience is valuable in this respect. The Camdessus report (Camdessus et al., 2003) estimated that providing 19 million people living in rural areas of Africa with access to drinking water and a sewage network would cost \$1.4 billion a year from 2003 to 2010. If this estimate was selected for all the countries, then for each additional person gaining access to these services, a country would receive \$74 wholly or in part. Similarly, according to the International Energy Agency (2011), “to provide universal modern energy access by 2030 annual average investment needs to average \$48 billion per year, more than five times the level of 2009”. The same report asserts that electrification alone would require an investment of between \$550 and

\$740 per person, depending on the type of access (on-grid, mini-grid or off-grid). Other cost estimates are provided by projects under the Global Partnership on Output-Based Aid (see <http://www.oba-data.org/> for details of these projects). Yet another source is return on experience from the Clean Development Mechanism, which also enables us to estimate the surplus cost entailed by carbon-free technology. Predictably costs vary a great deal depending on the local context. Adopting a more macro-economic perspective (at country level, for instance) would certainly make it easier to estimate average rates.

The share of this cost covered by the CDCM would depend on various factors:

1. The financial resources available in the Green Fund.
2. Whether the project concerns emissions abatement.
If so, the amount of aid should be sufficient, on top of other funding and aid, to enable investors or service providers to see a return on facilities and in particular to cover any surplus cost entailed by using carbon-free technology or compliance with low-carbon development guidelines.
3. Whether the project concerns adaptation.
If so, is climate change the main reason for the need to invest? In the case of sectors or projects for which climate change is one reason among others justifying the project, the level of aid allocated by the CDCM would only cover part of the funding needs, the rest coming from conventional funding sources.
4. The aid ratios for adaptation and emissions abatement will be aggregated.

Talks on setting these ratios are likely to be difficult. Whatever happens they should involve the developing countries and will certainly require all such ratios to be adjusted to allow for the specific context in each country. The expertise of the Technology Executive Committee in identifying obstacles to the transfer of specific technologies to each of these countries will be valuable, particularly when framing guidelines.

At the same time care must be taken to avoid investments being concentrated in a particular country or sector, as was sometimes the case with the Clean Development Mechanism (Baker et al., 2011). It may prove necessary to establish ceilings for each sector and major geographical area, so that investment is not monopolized by the most advanced countries or the most profitable sectors.

III. Will this mechanism overcome the obstacles to negotiation on climate change?

1. Organizing 'intended nationally determined contributions' in an equitable frame of reference

The concept of 'intended nationally determined contributions' was introduced at the Warsaw Conference to replace the terms 'commitment' and 'nationally appropriate mitigation actions' (NAMAs) previously used for Annex I and non-Annex I parties, respectively. This raises two sorts of problem. The first one relates to how ambitious we may expect such contributions to be, in particular for them to remain consistent with the target of limiting global warming to 2°C once aggregated. The

second one relates to assessment of voluntary contributions with regard to principles of equity. The Climate Action Network proposed to operationalize equity in a context of this sort in which commitments were not determined at domestic level, by establishing a frame of reference bringing together a series of indicators reflecting the main principles of equity. The CDCM is compatible with this framework, because the rate of satisfaction of basic needs count as an equity criterion to be taken into account when delimiting the margin of manoeuvre of each country regarding real reductions in GHG emissions, and lastly when assessing its needs in terms of adaptation.

Furthermore the CDCM creates a genuine incentive for countries to file conscientious reports, the prime condition for aid entitlement.

2. Respond to development stakes through country-specific strategies

The CDCM aims to make reducing poverty a top priority for climate policy. There can be no doubt that joint deployment along these lines would help overcome the traditional opposition between climate policy and development strategy. To achieve this, each country should, ideally, frame its own low-carbon, climate-change resilient development plan. This document would present in detail the sector-based approaches which could be adopted to satisfy the basic needs of a broader public. For example, such approaches might seek to deploy domestic policies tailored to attract private investors for infrastructure funding, or indeed tariff reforms guaranteeing real access to a range of services for the whole community.

3. A bottom-up approach with a sector-based pick-list

An additional advantage of the CDCM is its sector-based approach to the stakes for climate change and development. It thus responds to equity concerns with a bottom-up approach. Top-down strategies, which were preferred for many years, have failed to define a single framework applicable to all states in order to operationalize equity principles, in particular with respect to sharing the burden of reducing GHG emissions between different countries. So we shall certainly have give up the idea of a grand, all-embracing global structure.

The CDCM itself is strictly sector-based. By using a pick-list, it enables a country to commit itself to one or other field of action. As eligibility for financial support and technology transfer is also sector-based, it is quite conceivable that a country may be eligible for some sectors, not for others.

4. An incentive for all developing countries to take part

The CDCM could attract widespread support on the part of developing countries, due to the flexible, incentive-based form of partnership it promotes. In this respect it resembles the model proposed as part of the Montreal Protocol for addressing equity issues. Wemaëre (2014) shows that large-scale support by countries, in particular developing countries, was facilitated by two principles: flexibility regarding the deadline set for achieving the objectives for countries with consumption of the substances targeted by the protocol below a certain level; and a support mechanism which represented both an incentive for action and a means of applying sanctions (withdrawal of support in the event of failure to meet targets or submit reports). With the CDCM there are no sanctions, it being difficult to impose binding targets within a framework of voluntary contributions.

The CDCM is close, in terms of its sector-based, voluntary approach, to the sector-based clean-development mechanism (Samaniego and Figueres, 2002), to 'no-loose targets' (Schmidt et al., 2008)

or indeed sustainable development policies and measures (SD-Pams) (Winkler et al., 2002), which focus on, respectively, sector-based emissions mitigation programmes, sector-based targets for reducing energy intensity, or setting up policies in line with the development priorities of countries, while cutting emissions. However, in all three cases, support through emission-reduction credits is based on checking that emissions have been reduced by a certain amount compared to a hypothetical baseline scenario, which creates an incentive to fictitiously inflate the volume of emissions taken into account by the baseline scenario. Abuses of this sort were observed with the clean-development mechanism. In the present case aid is assessed ex-post on the basis of observed results. Lastly the CDM overcomes the restrictive project-based dimension specific to CDMs to become a full-scale development strategy and programme.

IV. Conclusion

If a mechanism of this sort was debated at the international climate conference, it could, in a single move, overcome several stumbling blocks.

It would respond to the concerns of developing countries which will never accept constraints on their development on the grounds of combating climate change. On the contrary the mechanism represents a form of incentive to achieve convergence between development priorities and the equally necessary efforts to cut greenhouse gas emissions, while developing in climate-change resilient ways.

However, it is of prime importance that financial support and technology-transfer mechanisms should be credible. As an essential condition for agreement by developing countries, this will probably require innovative funding sources, reaching beyond existing public development aid and the as yet nascent Green Fund.

At the same time, if developing countries accepted the mechanism, it would no longer be tenable for certain industrialized countries to maintain their current stance, demanding a formal commitment on emissions reduction, a further source of friction which has so far prevented a global climate agreement.

Public attention is already focused on Paris and the COP21 meeting to be held there at the end of 2015. Thinking back to the media excitement in the build-up to COP15, at Copenhagen in 2009, the stakes for the coming climate talks are clearly high, particularly for COP21, which is attracting the attention of many stakeholders, some of which exert considerable influence on public opinion. For many in the North and South the link between unpredictable climate conditions and public vulnerability is long established. But public opinion is also aware that achieving the Millennium Development Goals has failed to lift a substantial share of the world's population out of poverty; it is also increasingly doubtful about the difficult process of framing a new global climate agreement. COP21 has no plans to solve all the world's problems in just a few days, but expectations are so high that it is fair to say that the image of the international community would benefit from a diplomatic outcome which demonstrates that developed and developing countries share a common destiny, enshrined in efforts to bring global warming under control while satisfying the basic needs of which the poorest people are currently deprived.

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